

## I CLAIM

1. A method of processing a database service query, comprising:  
receiving a service query,  
applying principles of logic to the service query to obtain a sum of terms,  
evaluating each term as a separate SQL instruction, and  
executing each separate SQL instruction.
2. The method as claimed in claim 1, further comprising expanding each term to remove NOT operators.
3. The method as claimed in claim 2, wherein the a sum of terms are expanded using Boolean logic.
4. The method as claimed in claim 1, in which the service query is an X.500 or LDAP service query.
5. The method as claimed in claim 1, in which the service query is a search service query.
6. A method of processing a database service query, comprising:  
determining a SQL instruction representative of a function;  
listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in an second list; and  
not listing results which are duplicates of previously listed subtracted or non-subtracted results.
7. The method as claimed in claim 6, in which the service query is an X.500 or LDAP query.

8. The method as claimed in claim 6, in which the service query is a search service query.

9. A directory service arrangement including:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data; and

means for processing a service query by applying principles of logic to the service query to obtain a sum of terms, evaluating each term as a separate SQL instruction, and executing each separate SQL instruction.

10. The directory service arrangement as claimed in claim 9, further including means to perform X.500 or LDAP services.

11. A directory service arrangement including:

a database using a plurality of tables, each table having a plurality of rows and columns, and storing arbitrary data, and

means for processing a service query by determining a SQL instruction representative of a function, listing the results of a subtracted SQL instruction in a first list, listing the results of a non-subtracted SQL instruction in a second list, and not listing results which are duplicates of previously listed subtracted or non-subtracted results.

12. The directory service arrangement as claimed in claim 11, further including means to perform X.500 or LDAP services.

13. A method for processing a database service query, comprising:

translating a service query to an expression;

simplifying the expression to a number of smaller expressions, each smaller expression being capable of being flattened;

flattening each smaller expression; and

executing each flattened expression.